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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,451

09/30/2003

Takeshi Inao

P/1071-1600

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EXAMINER

RACHUBA, MAURINA T

ART UNIT

PAPER NUMBER

3723

MAIL DATE

DELIVERY MODE

05/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/674,451

Applicant(s)

INAO, TAKESHI

Examiner

Maurina Rachuba

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 16, 18 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 16, 18 and 20-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The finality of the Office action mailed 30 January 2007 is withdrawn. Previously presented claim 19 was inadvertently left out of the previous Office action. The claims filed 10 May 2007 have been entered. Please refer to the new rejections below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 15, 16, and 18-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sommer, 4,955,163 in view of Nagata, 5,343,626 and Pflager et al., 5,443,413. '163 discloses an apparatus for polishing side faces of grooves formed on a workpiece comprising: a fixture, figures 12 and 14, for fixing the workpiece; a rotating shaft disposed in a horizontal direction of the fixture; a rotary driving unit for rotating the

Art Unit: 3723

rotating shaft; a disc polishing element having abrasive grains thereon for polishing the side faces of the grooves, figure 10, the polishing element being fixed to the rotating shaft; wherein the disk polishing element has the abrasive grains on a side face thereof for polishing the workpiece, figure 10, and the disk polishing element further comprises abrasive grains at a peripheral edge thereof for cutting the workpiece, figure 10; a driving unit, figure 14, for moving at least one of the rotating shaft and the workpiece in the vertical direction, horizontally in the longitudinal direction of the rotating shaft, and in the longitudinal direction of the grooves along the side faces of the grooves; and a detector, column 12, lines 30 through column 14, lines 33, for detecting the position where the polishing element is in contact with the workpiece. Note that by detecting the position of the carriages, the position *where* the polishing element is in contact with the workpiece is detected. '163 does not disclose moving the rotating shaft and/or workpiece horizontally in the longitudinal direction of the grooves. In order for the shaft and/or workpiece to be moved horizontally in the longitudinal direction of the grooves, the workpiece of '163 must be placed so that its longitudinal axis is horizontal, so that the grooves have a horizontal component. '626, in a similar device, figure 2, teaches that it is old and well known to mount a grooved workpiece such that the grooves have a horizontal longitudinal direction along the side faces of the grooves. It would have been obvious to one of ordinary skill in the art to have provided '163 with the workpiece placement taught by '626, figure 2, with the workpiece oriented so that the grooves have a longitudinal, horizontal component, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. '163 does not

Art Unit: 3723

disclose that the sensor is a Hall sensor (interpreted as a Hall effect sensor). In a grinding apparatus, '413 teaches that Hall effect sensors are old and well known for measuring the position of one element relative to another, column 3, lines 9-11. It would have been obvious to one of ordinary skill in the art to have provided '163 with a Hall sensor as the sensor to measure the position of the polishing element relative to the workpiece, as taught by p413, column 3 lines 9-11, as one of many known position sensors available to applicant at the time the invention was made, to allow accurate sensing of the position of the tool.

5. Further, '163 does not disclose the cutting depth of the abrasive grains. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided '163 with grains having a size in the claimed range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here, the size of the grain can be dependent on the properties of the material being processed, the desired processing time, and the desired surface finish.

Response to Arguments

6. Applicant's arguments with respect to claims 15, 16 and 18-28 have been considered but are moot in view of the new ground(s) of rejection. The examiner agrees that '333 does not disclose the invention as now claimed, however, it is the examiner's position that the claimed invention is obvious over '163, as modified by '626 and '413. '413 teaches that the use of Hall effect sensors are old and well known for

Art Unit: 3723

determining relative position by measuring an electrical characteristic of a rotary driving unit of the tool, for accurate positioning of the tool.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurina Rachuba whose telephone number is 571 272 4493. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571 272 4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Maurina Rachuba
Primary Examiner
Art Unit 3723

Handwritten signature and date 5/16/07.